

The diagram illustrates the internal components of a portable electronic device 1. A dashed box 4 represents the 'ELECTRONIC ASSEMBLY WITH CERAMIC/ORGANIC HYBRID SUBSTRATE', which contains a 'PROCESSOR' 6 and a 'COMMUNICATIONS CIRCUIT' 7. A 'DISPLAY' 8 and a 'SPEAKER' 9 are connected to a central horizontal bus 2 via bidirectional arrows. The 'EXTERNAL MEMORY' section includes 'MAIN MEMORY (RAM)' 12, 'HARD DRIVE(S)' 14, and 'REMOVABLE MEDIA' 16, all connected to the bus 2. A 'KEYBOARD/CONTROLLER' 20 is also connected to the bus 2. A reference numeral 1 points to the overall device.

FIG. 1

Top view of a semiconductor device 50. A central region 60 contains a grid of circular features. Some features are hatched (62) and others are white (64). A dashed line 3 with arrows at both ends passes through the center. A region 70 is indicated on the right side of the central region 60.

[illegible]

FIG. 4

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graph TD
    251([BEGIN]) --> 253[FORM FIRST PORTION OF SUBSTRATE USING CERAMIC MATERIALS  
THE FIRST PORTION INCLUDES AT LEAST ONE SIGNAL NODE AND  
AT LEAST ONE CAPACITOR HAVING FIRST AND SECOND TERMINALS]
    253 --> 255[FORM SECOND PORTION OF THE SUBSTRATE USING ORGANIC MATERIALS  
THE SECOND PORTION HAS MULTIPLE CONDUCTORS INCLUDING:  
A FIRST CONDUCTOR COUPLED TO THE FIRST TERMINAL,  
A SECOND CONDUCTOR COUPLED TO THE SECOND TERMINAL, AND  
A THIRD CONDUCTOR COUPLED TO THE SIGNAL NODE]
    255 --> 257[FORM A FIRST NUMBER OF LANDS ON A SURFACE  
OF THE SECOND PORTION OF THE SUBSTRATE  
THE FIRST NUMBER OF LANDS INCLUDES:  
A FIRST LAND COUPLED TO THE FIRST CONDUCTOR,  
A SECOND LAND COUPLED TO THE SECOND CONDUCTOR AND  
A THIRD LAND COUPLED TO THE THIRD CONDUCTOR  
THE FIRST AND SECOND LANDS ARE POSITIONED TO BE COUPLED TO  
FIRST AND SECOND POWER SUPPLY NODES OF THE DIE. THE THIRD  
LAND IS POSITIONED TO BE COUPLED TO A SIGNAL NODE OF THE DIE]
    257 --> 259[FORM A SECOND NUMBER OF LANDS ON A SURFACE  
OF THE FIRST PORTION OF THE SUBSTRATE  
THE SECOND NUMBER OF LANDS INCLUDES:  
A FOURTH LAND COUPLED TO THE FIRST CONDUCTOR,  
A FIFTH LAND COUPLED TO THE SECOND CONDUCTOR, AND  
A SIXTH LAND COUPLED TO THE SIGNAL NODE OF THE FIRST PORTION  
THE FOURTH AND FIFTH LANDS ARE POSITIONED TO BE COUPLED TO  
CORRESPONDING POWER SUPPLY NODES OF A SUBJACENT SUBSTRATE  
THE SIXTH LAND IS POSITIONED TO BE COUPLED TO A  
CORRESPONDING SIGNAL NODE OF THE SUBJACENT SUBSTRATE]
    259 --> 261[WITHIN THE SECOND PORTION OF THE SUBSTRATE, FAN OUT SOME OR  
ALL OF THE CONDUCTORS FROM A FIRST PITCH OF THE FIRST NUMBER  
OF LANDS TO A SECOND PITCH OF THE SECOND NUMBER OF LANDS]
    261 --> 263([END])

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FIG. 5

FIG. 5